Health Sciences Faculty Attitude and Readiness Towards Simulation-Based Inter-Professional Education

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ABSTRACT

Objective: To explore attitude and readiness of health sciences faculty towards simulation-based inter-professional education (IPE).
Study Design: Qualitative case-study; critical realist paradigm as used.
Place and Duration of the Study: Bahria University Health Sciences Campus from December 2022 to March 2023.
Methodology: Maximum variation purposive sampling technique was used for selecting the participants. A total of thirty-one participants were selected. Five faculty members from Nursing, five from Doctor of Physical Therapy (DPT), five Medical Laboratory Technologists (MLT), eight participants from medical, and eight from the dental faculty. Data were collected using individual semi-structured interviews and two focus group discussion. Duration of an individual interview was 30 minutes and that of the focus group discussion was 60 minutes. All interviews were recorded and transcribed. Community of inquiry and community of practice theoretical framework were used for guiding the research design and interviews. Pattern matching technique was used for the data analysis. Atlas ti-9 was used for organising the data.
Results: Ten themes were identified after the analysis. teamwork, understanding roles and responsibilities, time constraint communication skills, curriculum integration, patient outcome, interprofessional boundaries, ethics in practice, faculty training, and visionary leadership.
Conclusion: The faculty members valued interprofessional education but were reluctant to implement it due to the limited resources. There is a need of faculty development for implementation of simulation-based interprofessional education. There is insufficient research on simulation and interprofessional education in Pakistan because of which faculty members are unacquainted of its benefits.

Key Words: *Interprofessional education, Simulation-based learning, Medical education.*

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INTRODUCTION

Interprofessional education is defined by the World Health Organization as a learning activity in which learners from different professions collaborate effectively in a learning experience to develop a set of competencies through working on common learning objectives. The basic aim of interprofessional education (IPE) is to educate healthcare professionals through a strategy that trains them to provide cohesive and collaborated patient centered healthcare practice. It improves communication skills, decision-making skills, teamwork skills, ethical behaviour, leadership skills, and respect among each other's profession. However, despite its effectiveness there are many barriers to its implementation.

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Simulation is increasingly used as a teaching and learning tool for health professionals. Simulation is an effective tool for medical education because it can function like a real patient care setting, and has been shown to improve students' knowledge, problem-solving and communication skills. Simulation-based IPEs drew attention in the medical field because they provided students with opportunities to collaborate, communicate, make decisions, and practice skills among their team members in life-like situations. Additionally, students can experience the consequences that arise from their decisions.[1,2] Patient safety is another advantage of simulation based learning as it allows health sciences students to perform learning activities in a safe environment without the burden or pressures from the actual medical environment.

Currently, The Aga Khan University and Dow University of Health Sciences have operational simulation centres in Pakistan. However, many medical colleges are preparing to establish similar simulation centres. Bahria University Health Sciences campus has a skills laboratory with medium fidelity simulators and is working towards the development of a simulation centre in the future. A recent review study concluded that the attitude of faculty members towards IPE is important for its

implementation.[3] Multiple research studies on IPE presented an evidence that it improves problem-solving abilities, collaboration among healthcare workers, and establishes an attitude of respecting roles and responsibilities.[4,5] IPE has been implemented internationally in medical curriculum, to educate students to respect and understand rules and duties of other healthcare workers. It refers to any two or more healthcare professionals learning in a session towards common learning outcomes. The usual pattern of IPE sessions in undergraduate medical education as practically seen, is a batch of third year MBBS students integrated with first year nursing students in multiple small group problem-solving sessions. It aims to bridge the gap between different professions by learning in a session with common learning objectives. There are many skills and curriculum domains which overlap in different healthcare professions which can be inculcated in IPE education. Seventy percent of adverse events occur due to communication gap between healthcare professionals because they are not trained to communicate and collaborate with different healthcare providers. Regardless of the growing awareness of the importance of simulation-based IPE, there are no evidence of the strategic role of that simulation-based IPE programme implemented in Pakistan for medical, dental, DPT, MLT or nursing students. This study aimed to assess attitude and readiness of healthcare professionals towards IPE at three levels, i.e. personal, process, and organisational. The objective of simulation-based IPE is professional identity formation in health sciences students so that they can learn to collaborate with each other towards a common goal. Simulation-based IPE is an effective teaching strategy to bridge the gap between theory and practice. There is enough research evidence that highlighted the most common causes of medical errors in healthcare practice to be communication gap, lack of collaboration, and incorrect information flow between different healthcare workers. All of these can be taught to healthcare students effectively using simulation-based IPE. IPE is an effective teaching strategy to improve collaboration, teamwork, communication, problem-solving and attitude towards other healthcare professionals.[4] Systematic review studies provided evidence that there was a post-intervention change of attitude in healthcare workers towards IPE.[5]Training of facilitators for IPE is important for effectiveness, goal-achievement, and student satisfaction.[6] Recent literature showed effectiveness of implementation of simulation-based IPE in early years of health sciences education for development of professional identity formation.[7] The objective of this study was to explore attitude and readiness of health sciences faculty towards simulation-based IPE.

METHODOLOGY

This qualitative case study was carried out in Bahria University Health Sciences Campus (BUHSC), Pakistan, from December 2022 to March 2023 after the approval from Faculty Review Committee and Ethical Review Committee. Maximum variation purposive sampling technique was used. The inclusion criteria was faculty members with at least five years of teaching experience who were willing to give consent. The exclusion criteria was faculty members with less than five year of experience and those who did not give consent. A total of thirty-one faculty members participated in the study. five faculty members from nursing, five from DPT, five from MLT, eight participants from medical, eight from dental faculty, two lecturers of basic sciences, two lecturers of clinical sciences, two professors from basic sciences, and two professors from clinical sciences.

Semi-structured interviews were done which were audio-recorded and then transcribed. Interviews were conducted by a female researcher who belonged to the Department of Medical Education, BUHSC and had formal training in qualitative research interviews from The Aga Khan University, Karachi. Duration of each interview was sixty minutes, and they were not repeated as data saturation was achieved after the initial interviews. Community of practice theoretic framework was used for guiding interviews. Written informed consents were taken from all faculty members before the interviews. Researchers had no prior connections with the participants. Participants were informed individually about the research goals and objectives prior to the interviews. All four researchers belonged to different departments of Bahria University Health Sciences Campus. A pilot was done with five interviews of healthcare professionals from different disciplines. After pilot, interviews were started. Interview questions were focused on attitude and readiness towards IPE at three levels: person, process, and organisation. Questions were based on working in a team, team efficacy, and physician's primary role. Semi-structured interviews were done face-to-face at BUHSC, and there was no other person present in the room except for the researcher and participant. Post-interview confidentiality form was given to the participants after interviews, following an alternate approach of confidentiality. They were asked to provide feedback on how they preferred their provided personal information and data to be handled. Transcripts were returned to participants for any corrections required. They were instructed to highlight any mistakes or controversial discussions incorporated; this ensured confidentiality as well as member checks.

Data analysis followed stages of open, axial, and selective coding through which themes were constructed. Analysis of transcripts of interviews was done using pattern matching, after which generated themes were compared with theoretical framework. Two researchers coded the data and themes were derived from the collected data. All major and minor themes were incorporated for thick description. COREQ- 32 Item checklist was used for quality assurance.[8]

RESULTS

Table I show the sequence of coding for themes. The participants labelled teamwork as the most useful aspects of IPE stating that all healthcare professionals should work towards the common goal of providing patient centre care and best practice. They emphasised on the need to develop a culture of collaboration and mutual trust.

Table I: Sequence of coding.

Open codes	Axial codes	Selective codes/Themes
Cooperation	Understanding roles and responsibilities	Teamwork
Support		Understanding role and responsibilities
Care		
Maintenance of relationship	Maintaining connection	
Association		
Interdepartmental boundaries	Interprofessional curriculum integration	Interprofessional curriculum integration
Time constraint		
Extensive curriculum		
Curriculum integration		
Lack of motivation		
Patient satisfaction	Patient satisfaction	Patient outcome
Lack of collaboration		Interprofessional boundaries
Communication gap		
Different time-tables		
Respect for other professions		Ethics in practice
Compassion		
Sympathy		
Lack of knowledge	Change in attitude	Faculty training
Communication skills		
Reluctance towards change		
Administrative responsibilities	Administrative change	Visionary leadership

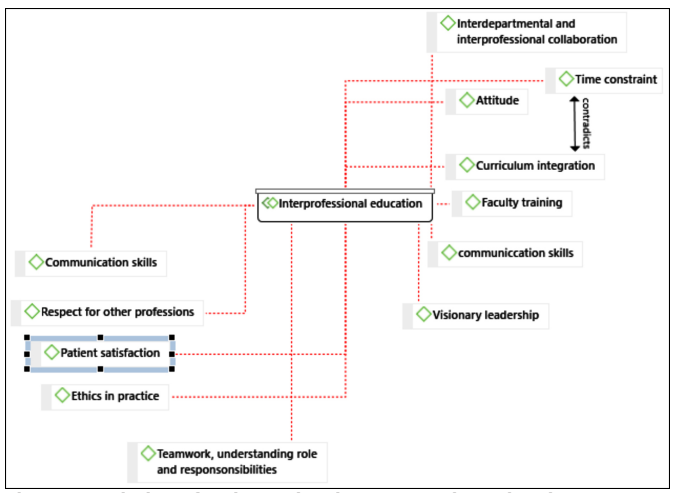

Figure 1: Relation of codes and codes group using atlas ti-9.

According to the participants, it is the most important objective of all healthcare professionals to identify role and responsibility. All healthcare professionals should respect their colleagues and learn personal accountability to justify their actions and preferences, which should be in the patients' best interest.

The perception of participants was that a communication gap creates multiple problems in practice, and therefore, learning effective communication through experiential learning is an advantage for all healthcare professionals.

Mapping common competencies across disciplines was considered a time-consuming task by the participants. Participants described time constraint as the main challenge to implement IPE.

Some participants expressed that the team effort to provide care to a patient does not result in patient satisfaction as they have a mindset that doctors are the most knowledgeable, and they fail to acknowledge the team-effort.

The participants described that the first and most difficult step will be to break boundaries between departments as well as between the professions. The participants expressed the need to change this attitude in order to implement integrated learning sessions. The participants considered it a good activity in terms of practising ethics and respect for different healthcare professionals working together. They agreed that the faculty training is mandatory to implement IPE activities. Visionary leadership is required for a sustained and committed administration system to implement innovative strategies. Figure 1 shows the relationship between the codes and code groups.

DISCUSSION

Most previous studies focussed on the impact of IPE on patient outcomes. However, few studies targeted the readiness and attitude of healthcare professionals towards IPE.[9-11] There are few research articles which addressed simulation-based IPE and results were somewhat same as this study but few differences were seen in the results.[12,13] The aim was to assess readiness and attitude prior to designing and implementation of IPE to understand stakeholder's perspective. Stakeholders were interested in its implementation for teaching undergraduate healthcare students but they highlighted the concerns of interprofessional curriculum alignment and dedication of leadership and administration for its implementation. However, they emphasised certain challenges as curriculum mapping, healthcare professionals' reluctance to share common objectives, inadequate patient satisfaction, and time constraints. Previous research done on IPE also reflected that although healthcare workers acknowledge the importance of effective interprofessional collaboration, in practice, they are still struggling to implement and practice it for undergraduate medical education, even after forty years of research.[13-15] So far, IPE has not been implemented in undergraduate or postgraduate level in Pakistan.

Most of the previous studies on IPE were focused on measuring impact of interprofessional activities on patient outcome and collaborated practices.[16-18]

There is still debate on the optimal time to introduce IPE although it seems that it is best to introduce during the clinical years but few sessions should be arranged in the initial years for orientation of students to interprofessional education.

There were very few research studies on simulation-based IPE in Pakistan. Most previous studies on IPE were quantitative, but this study employed qualitative design and pattern matching was used for the data analysis. Triangulation of data analysis was done by multiple researchers. IPE lacks credibility as it is not evidence-based as yet, more research evidences will be required to prove its authenticity as on effective teaching and learning strategy. Moreover, there is need of rigorous research on how to bridge the gap between IPE and interprofessional practice; IPE for collaborated patient centered practice (IECPCP) framework can be used for this purpose. There is high quality of empirical evidence to support that IPE improves patient outcomes. However, there is diminutive evidence to support that it reduces medical errors; further research on medical errors and its relationship to IPE can elaborate this further. Pakistan lacks proper research evidence on medical errors, which is mandatory to reduce them in practice.

CONCLUSION

Faculty members value IPE but are reluctant to implement it. There is a need of faculty development for implementation of simulation-based IPE. There is insufficient research on simulation and IPE in Pakistan because of which faculty members are unacquainted of its benefits.

PARTICIPANTS' CONSENT:
Informed consents were obtained from all the participants.

COMPETING INTEREST:
The authors declared no conflict of interest.

AUTHORS' CONTRIBUTION:
KF: Write-up of the topic, central idea, discussion, and conclusion, designed the research.
FZ, FS, YM:, Collected the data.
All authors approved the final version of the manuscript to be published.

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